

## ABSTRACT OF THE DISCLOSURE

In the present invention, distortion component of a device such as a power amplifier can be easily compensated for, and a simple structure can be achieved without requiring a demodulator. A voltage comparator (17) compares an envelope voltage of an output PA\_out of a power amplifier (14), which has been corrected by an AM\_ctl signal outputted from an amplitude correction memory (4), with an envelope voltage before the correction, to detect which of the envelope voltages is larger/smaller. Further, a logic section (18) adds and/or subtracts data in an amplitude compensation memory, so as to correct the relationship as to which of the envelope voltages is larger/smaller. At this time, data in the memory is updated by one bit for every one time of operation. Therefore, the data is corrected to a correct value by accessing one same address sometimes. In an inputted high-frequency signal PA-in, one same voltage appears at a certain provability on the time axis, if the envelope changes like a QPSK modulation wave, for example. Thus, all addresses are corrected to proper values as the time goes.